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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/661,722	09/12/2003	John M. Koegler III	200315232-1	8307

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EXAMINER

LAMB, CHRISTOPHER RAY

ART UNIT PAPER NUMBER

2627

DATE MAILED: 04/24/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No.	Applicant(s)	
	10/661,722	KOEGLER ET AL.	
	Examiner	Art Unit	
	Christopher R. Lamb	2627	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 5 April 2006.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 12 September 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                        | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)               | Paper No(s)/Mail Date. _____  |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>4 total</u> .   | 6) <input type="checkbox"/> Other: _____                                    |

## **DETAILED ACTION**

### ***Specification***

1. The disclosure is objected to because of the following informalities: in paragraph 1, line 2, the blank serial number for the related application should be filled in.

Appropriate correction is required.

### ***Claim Objections***

2. Claim 8 is objected to because of the following informalities: in line 3, "speed" should be "the speed." Appropriate correction is required.
3. Claims 9 and 17 are objected to because of the following informalities: in line 5, "presence" should be "the presence." Appropriate correction is required.
4. Claims 9-11 and 17-19 are objected to because of the following informalities: in line 3, "first and second signals" should be "a first and a second signal." Appropriate correction is required.

### ***Claim Rejections - 35 USC § 112***

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claims 9 and 17 each recite the limitation "the molded disk speed features" in line 6. There is insufficient antecedent basis for this limitation in the claim.

Note that the claims that these claims depend on refer to "disk speed features" but not "molded disk speed features."

***Claim Rejections - 35 USC § 103***

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 1-2, 4-5, 7-9, 11-13, 15-17, and 19-20 are rejected under 35 U.S.C.

103(a) as being unpatentable over Honda et al. (US 2002/0191517) in view of Horikawa et al. (US 4,884,259).

Regarding claims 1-2, Honda discloses an optical disk drive (Fig. 6), comprising:  
a spindle motor to turn an optical disk (56);  
an OPU to apply an image to a coating within a label region of the optical disk (66);

With regard to claim 1, Honda does not disclose "an encoder, configured to track disk speed features on the optical disk in a region distinct from the label region and to thereby obtain disk speed data."

With regard to claim 2, Honda also does not disclose "wherein the encoder is additionally configured to track disk angular orientation features molded within the region distinct from the label region."

However, Honda does disclose that tracking the disk speed and angle is necessary for the printing process (paragraphs 37, 47).

Horikawa discloses an encoder (Fig. 5: 28), configured to track disk speed features (Fig. 1: 6) on the optical disk in a distinct region (the outer circumferential edge:

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column 4, line 63 to column 5, line 7) and to thereby obtain disk speed data (column 6, lines 48-68), wherein the encoder is additionally configured to track disk angular orientation features (Fig. 1: 5) molded within the distinct region (column 4, line 63 to column 5, line 7):

It would have been obvious to one of ordinary skill in the art to include in Honda an encoder, configured to track disk speed features on the optical disk in a region distinct from the label region and to thereby obtain disk speed data, wherein the encoder is additionally configured to track disk angular orientation features molded within the region distinct from the label region, as taught by Horikawa.

The motivation would have been to improve the accuracy of the disk speed and angle measurement (reading these values directly from the disk is inherently more accurate than reading them indirectly from the spindle motor, as Honda does).

Regarding claim 4, Honda discloses a control procedure to coordinate disk speed data with the OPU during application of the image (paragraphs 37, 47).

Regarding claim 5 and 7, Honda discloses a host computer (Fig. 6: 46), so inherently includes a processor-readable medium comprising processor-executable instructions for labeling an optical disk. All other elements of these claims have been discussed in the previous rejections.

Regarding claim 8, Honda discloses processing the disk speed data to determine times when the speed of the spindle motor should be increased and times when the speed of the spindle motor should be decreased to maintain desired speed (paragraph 37; the spindle motor is controlled to maintain a constant speed).

Regarding claim 9, the teaching of Horikawa includes distinguishing between a first and a second signals received from the encoder, wherein the first and second signals result from differences in light reflection corresponding to the presence of absence of the molded disk speed features (that signals are generated is found in column 4, line 68 to column 5, line 7).

Regarding claim 11, it is inherent to the teaching of Horikawa (Horikawa does not explicitly disclose that the reference marks are molded pits, but the only sort of optically distinguishable mark disclosed by Horikawa is a pit; since the marks are pre-formed on the disc it is reasonable to assume they are molded as part of it).

Alternatively, if the applicant can persuade the examiner that it is not inherent, it is obvious over Honda in view of Horikawa.

Honda in view of Horikawa discloses a processor-readable medium as discussed above.

Honda in view of Horikawa does not explicitly state that "the first signal results when light is reflected off a mirrored surface and wherein the second signal results when light is reflected by a molded pit."

Horikawa discloses that a pit is a kind of optically detectable mark (column 4, lines 38-49), and that the area other than the pits is a mirrored surface (column 4, lines 38 to 43; if it is a thin metal film, it is mirrored).

Thus it would have been obvious to one of ordinary skill in the art at the time of the invention to include in Honda in view of Horikawa wherein the first signal results

when light is reflected off a mirrored surface and wherein the second signal results when light is reflected by a molded pit.

The motivation would have been to use a well-known and well-tested kind of optically detectable mark, improving reliability.

Regarding claim 12, in Honda in view of Horikawa the interpreting comprises instructions for distinguishing between the output signals, wherein the output signals are associated with levels of light reflectivity within a region defined on a mirror surface adjacent to the coating on the label side of the disk (see claim 11 discussion; that the surface is adjacent to the coating on the label side is inherent because Horikawa teaches putting the surface on the outer circumference next to the recording area, which in this case is the label area).

Regarding claims 13, 16, 17, 19, and 20, all the claimed elements have already been discussed with regards to earlier rejections. No further elaboration is necessary.

Regarding claim 15, all elements claimed have already been discussed except wherein the molded disk angular orientation features are, despite being read by the encoder, "located radially inside an area on the optical disk reachable by an OPU." This is inherent to Honda in view of Horikawa (first, the encoder is itself an optical pickup unit, so the features are definitely within an area reachable by an OPU, and second, since the same OPU is used in Honda on both the data side and the label side, and the data side does not have angular orientation features, that area of the disk would be reachable by the OPU because it would be considered writeable area on the data side).

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9. Claims 3, 6 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Honda in view of Horikawa as applied to the claims above, and further in view of Bugner et al. (US 6,109,324).

Regarding claim 3, Honda in view of Horikawa discloses an optical disk drive as discussed above.

Honda in view of Horikawa does not disclose "wherein the OPU is additionally configured to track disk angular orientation features defined within the label region."

Bugner discloses disk angular orientation features defined within the label region (an "alignment mark," column 2, lines 56 to column 3, line 6). Bugner discloses that the alignment mark allows a second image to be printed in alignment with a first image. Bugner discloses that this alignment mark can be optically detected (column 4, lines 60-67).

It would have been obvious to one of ordinary skill in the art at the time of the invention to include in Honda in view of Horikawa wherein the OPU is additionally configured to track disk angular orientation features defined within the label region (Bugner has a separate system for tracking the disk angular orientation features, but it is not necessary in Honda in view of Horikawa; since Honda in view of Horikawa is a CD-R/RW drive, it already has an OPU capable of reading features from the disk, so it would be obvious to use that).

The motivation would have been to print a second image in alignment with a first image, as taught by Bugner.

Claims 6 and 14 are also rejected over Honda in view of Horikawa and further in view of Bugner; all elements of these claims have been discussed with regards to the earlier rejections.

10. Claims 10 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Honda in view of Horikawa as applied to the claims above, and further in view of Negashima.

Regarding claim 10 Honda in view of Horikawa discloses a processor-readable medium as discussed above; in particular, Honda in view of Horikawa discloses distinguishing between first and second signals received from the encoder, wherein the first signal results when light is reflected off a mirrored surface.

Honda in view of Horikawa does not disclose that “the second signal results when light is reflected by a saw tooth feature.”

However, Honda in view of Horikawa does disclose that the second signal results from an optically distinguishable mark; since the general surface of the disk is mirrored, the optically distinguishable mark must have a structure that prevents light from being reflected back toward the photodetector (in Honda in view of Horikawa, this is a pit).

Negashima discloses a saw tooth feature that prevents light from being reflected back to a detector (column 3, lines 29-40).

It would have been obvious to one of ordinary skill in the art at the time of the invention to include in Honda in view of Horikawa wherein the second signal results when light is reflected by a saw tooth feature, as taught by Negashima, because a saw-tooth feature and a pit are used in the same environment, for the same purpose, and

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achieve the same result (Negashima does not use the sawtooth feature in an optical disc drive, but the principle is the same: both the pit and the sawtooth feature are deformations in the surface intended to keep light from reflecting back to a photodetector, and such variations would be well known to one of ordinary skill in the field of optics).

Regarding claim 18, it is also rejected over Honda in view of Horikawa and further in view of Negashima; all claimed elements have been discussed with regards to earlier rejections.

### ***Conclusion***

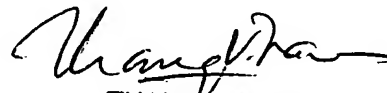
11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Cordano et al. (US 3,426,337), Satoh et al. (US 5,119,363), Morishima et al. (US 2003/0117932).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christopher R. Lamb whose telephone number is (572) 272-5264. The examiner can normally be reached on 8:30 AM to 6:00 PM Monday to Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, William Korzuch can be reached on (571) 272-7589. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
THANG V. TRAN  
PRIMARY EXAMINER

CRL 4/19/06